

AMENDMENTS TO THE CLAIMS

Please amend prior claims 19 and 25 as indicated below. Please also cancel prior claims 22 and 23 and add new claims 26-33. In accordance with 37 C.F.R. § 1.121, a claim listing including the status and text of all claims as currently presented appears below. In making such amendments, no new matter is entered.

1-18. (Withdrawn)

19. (Currently Amended) A multi-layer electrical device comprising:

a first device layer with a first series of resistive/conductive patterns thereon;

a second device layer with a plurality of via drilled therethrough;

wherein said first and second device layers comprise an epoxy-fiberglass

composite material:

a unitary device body formed by the bonded union of the first and second device layers, wherein said via correspond to a respective capture pad in said first series of resistive/conductive patterns;

a second series of resistive/conductive patterns on an outer layer of said unitary body;

a plurality of terminations on said unitary body for electrical connection between other electronic devices and components of said device;

individual passive components with first and second opposing electrical terminations, wherein each said individual passive component is vertically mounted into a selected of said plurality of via and wherein one of said first and second opposing

electrical terminations is bonded to the respective capture pad for said selected of said plurality of via;

multiple portions of a non-conductive material respectively substantially filling the space between each of said individual passive components and the surrounding via, wherein said non-conductive material partially encases each said individual passive component to hold it in place while leaving one of said first and second opposing electrical terminations exposed and prevents shorting between respective first and second opposing electrical terminations; and

an electrical connection between each of said passive components and at least a portion of said second series of resistive/conductive patterns on said outer surface of said unitary device body.

20. (Previously Presented) The multi-layer electrical device of claim 19, wherein said first and second layer are made of FR4.

21. (Previously Presented) The multi-layer electrical device of claim 20, wherein said device is a printed circuit board.

22-23. (Canceled)

24. (Previously Presented) The multi-layer electrical device of claim 19, wherein said passive components comprise any combination of resistors, capacitors, varistors, and thermistors.

25. (Currently Amended) A multi-layer electronic device comprising:

a plurality of first device layers, each such layer having a first series of resistive/conductive patterns thereon and a plurality of via drilled therethrough;

a plurality of second device layers, each such layer having a plurality of via drilled therethrough;

wherein said first and second device layers comprise an epoxy-fiberglass composite material;

a unitary device body formed by the bonded union of an interleaved stack of said plurality of first and said second device layers, wherein each of said via correspond to a respective portion of the resistive/conductive patterns on the underlying device layer and wherein one of said second device layers forms the uppermost device layer and the lowermost device layer is one of said first device layers;

a second series of resistive/conductive patterns on an outer layer of said uppermost device layer;

a plurality of terminations on said unitary body for electrical connection between other electronic devices and various of the resistive/conductive patterns throughout said unitary device body;

individual passive components with respective first and second opposing terminations, wherein each individual passive component is vertically mounted into a selected of said plurality of via and wherein one of said first and second opposing terminations are electrically connected to a portion of said underlying first device layer's first series of resistive/conductive patterns;

multiple portions of a non-conductive material respectively substantially filling the space between each of said individual passive components and the surrounding via, wherein said non-conductive material partially encases each said individual passive component to hold it in place while leaving one of said first and second opposing electrical terminations exposed and prevents shorting between respective first and second opposing electrical terminations; and

an electrical connection between each of said passive components and at least a portion of said overlying first device layer's first series of resistive/conductive patterns through a corresponding one of said first device layer's plurality of via.

26. (New) The multi-layer electrical device of claim 19, wherein said bonded union of the first and second device layers is formed of one of lamination, weight-firing, gluing and spritzing solvent.

27. (New) The multi-layer electrical device of claim 19, wherein said passive components are bonded to their respective capture pads by way of solder reflow.

28. (New) The multi-layer electrical device of claim 19, wherein said passive components are bonded to their respective capture pads by way of cured conductive epoxy.

29. (New) The multi-layer electronic device of claim 25, wherein said first and second device layers comprise FR4.

30. (New) The multi-layer electronic device of claim 25, wherein said bonded union of the interleaved stack of said plurality of first and said second device layers is formed of one of lamination, weight-firing, gluing and spritzing solvent.

31. (New) The multi-layer electronic device of claim 25, wherein said passive components are bonded to their respective capture pads by way of solder reflow.

32. (New) The multi-layer electronic device of claim 25, wherein said passive components are bonded to their respective capture pads by way of cured conductive epoxy.

33. (New) The multi-layer electronic device of claim 25, wherein said passive components comprise any combination of resistors, capacitors, varistors, and thermistors.